CLAIMS

1. A thermoelectric effect device, comprising:

two thermoelectric converter elements including a first thermoelectric converter element and a second thermoelectric converter element each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the first electric conductor member's side opposite to the joint member and the second electric conductor member's side opposite to the joint member being electrically connected, respectively, to a facing first electric conductor member's side opposite to a facing joint member and a facing second electric conductor member's side opposite to the facing joint member, and

connecting one of the electric conduction materials to a direct current source in-line constituting a Peltier effect heat transfer circuit system which has an endothermic section and an exothermic section,

characterized in that:

between the endothermic section and the exothermic section, a distance is secured for so keeping a temperature T_α at the endothermic section and a temperature T_β at the exothermic section as to keep a relation $T_\alpha < T_\beta$.

2. A thermoelectric effect device, comprising:

2n pieces of thermoelectric converter elements each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the 2n pieces of the thermoelectric converter elements being electrically connected to each other in such a manner as to form an in-line,

the 2n pieces of the thermoelectric converter elements adjacent to each other being disposed alternately, thus forming an endothermic section and an exothermic section, and

connecting at least a part of the electric conduction material to a direct current source in-line constituting a Peltier effect heat transfer circuit system which has n piece of the endothermic section and n piece of the exothermic section,

characterized in that:

between the endothermic section and the exothermic section, a distance is secured

for so keeping a temperature T_α at the endothermic section and a temperature T_β at the exothermic section as to keep a relation $T_\alpha < T_\beta$.

3. An energy direct conversion system, comprising:

two thermoelectric converter elements including a first thermoelectric converter element and a second thermoelectric converter element each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the first electric conductor member's side opposite to the joint member and the second electric conductor member's side opposite to the joint member being electrically connected, respectively, to a facing first electric conductor member's side opposite to a facing joint member and a facing second electric conductor member's side opposite to the facing joint member,

the first thermoelectric converter element and the second thermoelectric converter element being disposed in ambient temperatures different from each other, and

a distance being secured for so keeping an ambient temperature T1 of the thermoelectric converter element on a high temperature side and an ambient temperature T2 of the thermoelectric converter element on a low temperature side as to keep a relation $T1 > T2$,

characterized in that:

taking out an electric potential energy from a certain section of the electric conduction material constitutes a direct energy conversion electric circuit system converting from a heat energy into the electric potential energy.

4. An energy direct conversion system, comprising:

2n pieces of thermoelectric converter elements each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the 2n pieces of the thermoelectric converter elements being electrically connected to each other in such a manner as to form an in-line,

the 2n pieces of the thermoelectric converter elements adjacent to each other being disposed alternately, thus forming ambient temperatures different from each other, and

a distance being secured for so keeping an ambient temperature T1 of the thermoelectric converter element on a high temperature side and an ambient temperature

T2 of the thermoelectric converter element on a low temperature side as to keep a relation T1 > T2,

characterized in that:

taking out an electric potential energy from a certain section of the electric conduction material constitutes a direct energy conversion electric circuit system converting from a heat energy into the electric potential energy.

5. The energy direct conversion system, as claimed in claim 3, wherein,

the energy direct conversion system further comprises:

at least a pair of the direct energy conversion electric circuit systems, and

a plurality of starting sections using a temperature difference attributable to one of an initial external heating and an initial external cooling,

characterized in that:

the energy direct conversion system converts a heat energy source directly into the electric potential energy, wherein the heat energy source is in different ambient temperatures in different places independent of each other.

6. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through an electrolization, the electric potential energy being obtained from the heat energy direct conversion system as claimed in claim 3.

7. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through an electrolization, the electric potential energy being obtained from the heat energy direct conversion system as claimed in claim 4.

8. An energy conversion system, comprising:

a thermoelectric effect device including;

two thermoelectric converter elements including a first thermoelectric converter element and a second thermoelectric converter element each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the first electric conductor member's side opposite to the joint member and the second electric conductor member's side opposite to the joint member being electrically connected, respectively, to a facing

first electric conductor member's side opposite to a facing joint member and a facing second electric conductor member's side opposite to the facing joint member, and

connecting one of the electric conduction materials to a direct current source in-line constituting a Peltier effect heat transfer circuit system which has an endothermic section and an exothermic section,

the thermoelectric effect device characterized in that:

between the endothermic section and the exothermic section, a distance is secured for so keeping a temperature T_α at the endothermic section and a temperature T_β at the exothermic section as to keep a relation $T_\alpha < T_\beta$,

the energy conversion system characterized in that:

the energy conversion system obtains the electric potential energy by supplying to the energy direct conversion system as claimed in claim 3 the heat energy obtained from the thermoelectric effect device, and that

the energy conversion system uses a part of the electric potential energy as a direct current source by feedbacking the part of the electric potential energy to the thermoelectric effect device.

9. An energy conversion system, comprising:

a thermoelectric effect device including;

two thermoelectric converter elements including a first thermoelectric converter element and a second thermoelectric converter element each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the first electric conductor member's side opposite to the joint member and the second electric conductor member's side opposite to the joint member being electrically connected, respectively, to a facing first electric conductor member's side opposite to a facing joint member and a facing second electric conductor member's side opposite to the facing joint member, and

connecting one of the electric conduction materials to a direct current source in-line constituting a Peltier effect heat transfer circuit system which has an endothermic section and an exothermic section,

the thermoelectric effect device characterized in that:

between the endothermic section and the exothermic section, a distance is

secured for so keeping a temperature T_α at the endothermic section and a temperature T_β at the exothermic section as to keep a relation $T_\alpha < T_\beta$,

the energy conversion system characterized in that:

the energy conversion system obtains the electric potential energy by supplying to the energy direct conversion system as claimed in claim 4 the heat energy obtained from the thermoelectric effect device, and that

the energy conversion system uses a part of the electric potential energy as a direct current source by feedbacking the part of the electric potential energy to the thermoelectric effect device.

10. An energy conversion system, comprising:

a thermoelectric effect device including;

two thermoelectric converter elements including a first thermoelectric converter element and a second thermoelectric converter element each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the first electric conductor member's side opposite to the joint member and the second electric conductor member's side opposite to the joint member being electrically connected, respectively, to a facing first electric conductor member's side opposite to a facing joint member and a facing second electric conductor member's side opposite to the facing joint member, and

connecting one of the electric conduction materials to a direct current source in-line constituting a Peltier effect heat transfer circuit system which has an endothermic section and an exothermic section,

the thermoelectric effect device characterized in that:

between the endothermic section and the exothermic section, a distance is secured for so keeping a temperature T_α at the endothermic section and a temperature T_β at the exothermic section as to keep a relation $T_\alpha < T_\beta$,

the energy conversion system characterized in that:

the energy conversion system obtains the electric potential energy by supplying to the energy direct conversion system as claimed in claim 5 the heat energy obtained from the thermoelectric effect device, and that

the energy conversion system uses a part of the electric potential energy as a direct

current source by feedbacking the part of the electric potential energy to the thermoelectric effect device.

11. An energy conversion system, comprising:

a thermoelectric effect device including;

2n pieces of thermoelectric converter elements each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the 2n pieces of the thermoelectric converter elements being electrically connected to each other in such a manner as to form an in-line,

the 2n pieces of the thermoelectric converter elements adjacent to each other being disposed alternately, thus forming an endothermic section and an exothermic section, and

connecting at least a part of the electric conduction material to a direct current source in-line constituting a Peltier effect heat transfer circuit system which has n piece of the endothermic section and n piece of the exothermic section,

the thermoelectric effect device characterized in that:

between the endothermic section and the exothermic section, a distance is secured for so keeping a temperature T_α at the endothermic section and a temperature T_β at the exothermic section as to keep a relation $T_\alpha < T_\beta$,

the energy conversion system characterized in that:

the energy conversion system obtains the electric potential energy by supplying to the energy direct conversion system as claimed in claim 3 the heat energy obtained from the thermoelectric effect device, and that

the energy conversion system uses a part of the electric potential energy as a direct current source by feedbacking the part of the electric potential energy to the thermoelectric effect device.

12. An energy conversion system, comprising:

a thermoelectric effect device including;

2n pieces of thermoelectric converter elements each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each

other,

by way of an electric conduction material, the 2n pieces of the thermoelectric converter elements being electrically connected to each other in such a manner as to form an in-line,

the 2n pieces of the thermoelectric converter elements adjacent to each other being disposed alternately, thus forming an endothermic section and an exothermic section, and

connecting at least a part of the electric conduction material to a direct current source in-line constituting a Peltier effect heat transfer circuit system which has n piece of the endothermic section and n piece of the exothermic section,

the thermoelectric effect device characterized in that:

between the endothermic section and the exothermic section, a distance is secured for so keeping a temperature T_α at the endothermic section and a temperature T_β at the exothermic section as to keep a relation $T_\alpha < T_\beta$,

the energy conversion system characterized in that:

the energy conversion system obtains the electric potential energy by supplying to the energy direct conversion system as claimed in claim 4 the heat energy obtained from the thermoelectric effect device, and that

the energy conversion system uses a part of the electric potential energy as a direct current source by feedbacking the part of the electric potential energy to the thermoelectric effect device.

13. An energy conversion system, comprising:

a thermoelectric effect device including;

2n pieces of thermoelectric converter elements each of which is formed in such a manner as to join, by using a joint member, a first electric conductor member and a second electric conductor member which have different Seebeck coefficients from each other,

by way of an electric conduction material, the 2n pieces of the thermoelectric converter elements being electrically connected to each other in such a manner as to form an in-line,

the 2n pieces of the thermoelectric converter elements adjacent to each other being disposed alternately, thus forming an endothermic section and an exothermic section, and

connecting at least a part of the electric conduction material to a direct current source in-line constituting a Peltier effect heat transfer circuit system which has n piece of the endothermic section and n piece of the exothermic section,

the thermoelectric effect device characterized in that:

between the endothermic section and the exothermic section, a distance is secured for so keeping a temperature T_α at the endothermic section and a temperature T_β at the exothermic section as to keep a relation $T_\alpha < T_\beta$,

the energy conversion system characterized in that:

the energy conversion system obtains the electric potential energy by supplying to the energy direct conversion system as claimed in claim 5 the heat energy obtained from the thermoelectric effect device, and that

the energy conversion system uses a part of the electric potential energy as a direct current source by feedbacking the part of the electric potential energy to the thermoelectric effect device.

14. The energy conversion system as claimed in claim 8, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch.

15. The energy conversion system as claimed in claim 9, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch.

16. The energy conversion system as claimed in claim 10, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch.

17. The energy conversion system as claimed in claim 11, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch.

18. The energy conversion system as claimed in claim 12, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch.

19. The energy conversion system as claimed in claim 13, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch.

20. The heat energy conversion system as claimed in claim 8, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

21. The heat energy conversion system as claimed in claim 9, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

22. The heat energy conversion system as claimed in claim 10, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

23. The heat energy conversion system as claimed in claim 11, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

24. The heat energy conversion system as claimed in claim 12, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

25. The heat energy conversion system as claimed in claim 13, wherein

the feedback of the electric potential energy is controlled by turning on and off a switch, so that the electric potential energy is supplied to the thermoelectric effect device and that an electric power from the direct current source of the thermoelectric effect device is cut.

26. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 6.

27. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 7.

28. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 8.

29. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 9.

30. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 10.

31. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 11.

32. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 12.

33. An energy conversion system characterized in that:

the energy conversion system converts the electric potential energy into a chemical potential energy through the electrolization, the electric potential energy being obtained from the energy conversion system as claimed in claim 13.